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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,463	02/23/2004	Jurgen Walz	22762	8795

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EXAMINER	
CADUGAN, ERICA E	
ART UNIT	**PAPER NUMBER**
3722	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,463	WALZ, JURGEN	
	Examiner	Art Unit	
	Erica E. Cadugan	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) *6-9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/7/04, 2/23/04*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *11232005*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-5, drawn to a "method of machining a hollow metal workpiece", classified in class 29, subclass 558.

   II. Claims 6-9, drawn to an "apparatus for machining a hollow metal workpiece", classified in class 29, subclass 26A.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, the apparatus as claimed can be used to machine the workpiece while it is not held by the grab, i.e., after the grab has released the workpiece to another clamping device at a workstation, for example.

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Andrew Wilford on November 15, 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 6-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-9 are thus withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There are a number of issues with respect to 35 USC 112, second paragraph in the claims. These were discussed in detail in a telephone interview on November 17, 2005, and include issues with respect to the terms "large-diameter" and "small-diameter" being relative terms or terms of degree for which there is no provided frame of reference, issues with respect to the clarity of how many tools are being set forth, issues with respect to the clarity of the location of the workpiece during the various machining steps, etc. See the proposed Examiner's Amendment that is attached to the interview summary of that interview for a detailed fix of any issues with respect to 35 USC 112, second paragraph.

Allowable Subject Matter

7. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. Claims 2-5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

References such as U.S. Pat. No. 5,781,983 to Gruner, for example, teach a device including a "grab" 25 that picks up a workpiece 26 from a "transfer station", such as at 45 or 45' (see Figures 3 and 6, for example). The workpiece is transported to various work stations 22 (see Figure 6) where it is machined while being held by the grab (see Figures 3, 6, and col. 2, lines 16-17, for example). Gruner also teaches that the grab is rotatable about axis 12 (see Figure 3 and col. 4, lines 21-25, for example).

However, references such as Gruner do not specify that the workpiece is "a hollow metal workpiece" having a plurality of "throughgoing holes" and a port (or large-diameter hole as best understood) as set forth in claim 1. Additionally, Gruner does not teach the steps of "fitting another tool through the large-diameter hole of the workpiece and positioning the other tool inside the workpiece adjacent one of the small-diameter holes" and "coupling a drive spindle through the one small-diameter hole of the workpiece with the other tool and machining an inner surface of the workpiece adjacent the one small-diameter hole with the other tool" (as best understood) as set forth in claim 1.

References such as U.S. Pat. No. 3,389,454 to Sattler teach a method of machining a hollow workpiece 10 having a plurality of "small" throughgoing holes, such as 38 and/or 40 (Figure 1), and also inherently having a larger hole or port through which the tool 58 must pass to function as shown in Figures 3 and 5 and through which the tool 66 must pass to function as shown in Figures 4 and 6 (noting that the tool as shown is too big to fit through the "small" holes through which the drive shaft or drive spindle 59, 68 of the tools 58, 66 pass). Note that as shown in Figures 3-6, the drive spindle or shaft 59, 68 is coupled through the "small" diameter holes to the tool (see also col. 2, lines 35-62). Similarly, drive shafts 86 pass through the small

holes 40 to engage cutting tool 82, which must inherently pass through a larger hole to fit inside the cavity 20 of the workpiece (see Figure 8, and also see col. 2, line 66 through col. 3, line 8). Additionally, Sattler teaches the machining of "exterior" surfaces of the workpiece as shown in Figures 2 and 7, for example.

However, Sattler does not teach the step(s) of "picking up from a transfer station by a grab" the hollow workpiece and "while" (continuously) "holding the workpiece in the grab", performing the machining steps set forth in the claimed steps (a) through (d). Instead, Sattler teaches that the gear case workpiece is moved through a series of work stations (col. 2, lines 12-16) wherein the workpiece is re-fixtured or re-clamped at each station (see col. 2, lines 16-19, and col. lines 27-37, for example).

It appears that the purpose of Sattler's invention was the provision of better-designed locating faces on the workpiece such that the workpiece could be more accurately clamped at each work station, to thereby improve the quality of the finished part (see col. 1, lines 16-48, for example). Thus, to combine Sattler with a teaching such as that of Gruner wherein the workpiece is continuously held by the grab while it is machined and transported would appear to destroy the invention of Sattler, i.e., the better-designed locating faces, since these locating faces would not be used, since the workpiece would not be reclamped at the various machining stations.

Similarly to Sattler, U.S. Pat. No. 5,207,749 to Ariyoshi teaches that a tool "A" is fitted through an larger opening or port 56 in a hollow workpiece, while a drive spindle is fitted through a smaller hole of the workpiece to then be drivingly attached to that cutting tool "A" (see Figure 5, also col. 5, lines 17-67, for example). However, it is noted that Ariyoshi explicitly

teaches that carrier arms (i.e., a "grab") bring the workpiece B to a predetermined position in the workstation, and then separate clamp arms 31, 32 are utilized to hold the workpiece (col. 5, lines 26-33). In other words, Ariyoshi does not teach that the workpiece is continuously held by a "grab" during the described machining. Additionally, Ariyoshi does not teach the steps of "engaging a tool from outside with a first exterior surface of the workpiece and thereby finishing the first exterior surface", nor the step of "reorienting the workpiece by the grab and engaging a tool with a second exterior surface of the workpiece offset from the first exterior surface and thereby finishing the second exterior surface" as set forth in claim 1.

Also, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Ariyoshi, and thus, Ariyoshi does not render obvious the present invention as set forth in independent claim 1. Note that while Gruner does teach an apparatus having a grab that transfers a workpiece from station to station to hold the workpiece while it is machined, and that the grab of Gruner is capable of reorienting the workpiece, Gruner does not overcome the deficiencies of Ariyoshi because Gruner does not teach the method step of "engaging a tool from outside with a first exterior surface of the workpiece and thereby finishing the first exterior surface" in combination with the step of "reorienting the workpiece by the grab and engaging a tool with a second exterior surface of the workpiece offset from the first exterior surface and thereby finishing the second exterior surface" as set forth in claim 1, for example.

The aforedescribed prior art being a representative sample of the closest prior art of record to the present invention as set forth in the independent claim 1, for at least the foregoing

reasoning, the prior art of record does not render obvious the present invention as set forth in independent claim 1.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E. Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 6:30 a.m. to 4:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erica E Cadugan
Primary Examiner
Art Unit 3722

eec
November 23, 2005